CD-R/RW SCSI Drive Unit

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User's Guide
Mode d'emploi
Bedienungsanleitung
Manual de instrucciones
Manuale d'istruzione

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Owner's Record

The model and serial numbers are located on the top of the drive. Record these numbers in the spaces provided below. Refer to them whenever you call upon your sales representative regarding this product.

Model No. _____   Serial No. _____

Safety Regulations

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Caution:

As the laser beam in this CD-R/RW drive is harmful to the eyes, do not attempt to disassemble the cabinet. Refer servicing to qualified personnel only.
The use of optical instruments with this product will increase eye hazard.
The use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation.

DANGER
INVISIBLE LASER RADIATION WHEN OPEN.
AVIOD DIRECT EXPOSIRE TOP BEAM

VORSICHT
UNSICHTBARE LASERSTRAHLUNG. WENN ABDECKUNG GEOFFNET
NICHT DEMSTRAHL AUSSETZEN.

This label is located on the drive unit's internal chassis.

DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
DANGER	RADIATIONS INVISIBLES DU LASER EN CAS D'OUVERTURE. EVITER TOUTE EXPOSITION DIRECTE AU FAISCEAU.
VORSICHT	UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDS/ETTELSE FOR STRÅLING.
ADVARSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
VARNING	OSYNLIG LASERSTRÅLING NÅR DENNA DEL AR ÖPPNAD. STRÅLEN ÄR FARLIG.
VAROI	NÄKYMÄTÖN AVATTAESSA OLET ALTTINA LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEN.

This label is located on the bottom of the drive unit enclosure.

This unit uses CD-R discs and CD-RW discs with the following mark.

COMPACT disc
Recordable
ReWritable

This unit uses CD-ROM discs with the following mark.

COMPACT disc

When you use this unit as a CD player, use compact discs with the following mark.

COMPACT disc
DIGITAL AUDIO

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Note:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
● Reorient or relocate the receiving antenna.
● Increase the separation between the equipment and receiver.
● Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
● Consult the dealer or an experienced radio/TV technician for help.

CLASS 1
LASER PRODUCT

LASER KLASSE 1
PRODUKT

This CD-R/RW drive unit is classified as a CLASS 1 LASER PRODUCT.
The CLASS 1 LASER PRODUCT label is located at the bottom of the enclosure.

Trademarks
● MS-DOS/Windows/Windows 95/98/NT are registered trademarks of Microsoft Corporation.
● Pentium is a trademark of Intel Corporation.
● IBM PC, PC/XT and PC/AT are registered trademarks of International Business Machines Corporation.
● PHOTO CD is a registered trademark of Eastman Kodak Company.

Contents

Introduction

Features

This CD-R/RW drive has the following features:

General
- 5 1/4 inch half-height drive form factor.
- Fast SCSI bus interface embedded (based on SCSI-2).
- Integrated buffer memory.
- Power tray loading and ejection (manual eject too).
- Housed in an airtight frame casing.

Supported formats and modes
- CD-ROM (mode 1), CD-ROM XA (Mode 2 form 1 & 2 data)
- PHOTO-CD (read only) & Video-CD, CD-I (Mode 2, form 1 and 2)
- CD-DA, CD-EXTRA and CD-I Ready (read only)
- CD-TEXT, CD-Recordable & CD-ReWritable

Audio
- Outputs 16-bit digital audio data over SCSI interface.
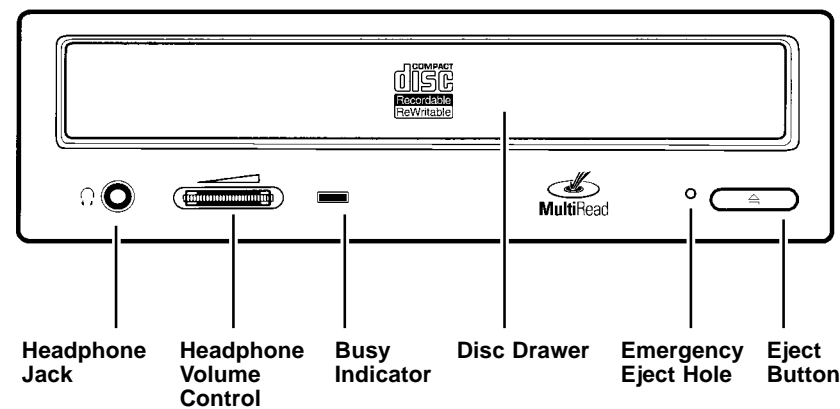- Audio CD playback via Audio Out and headphones jack.

Note:
Please read this manual thoroughly before attempting installation.
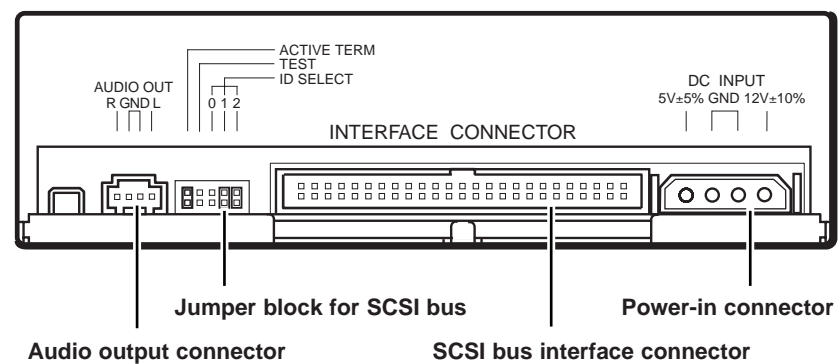
System Requirements for WINDOWS 95/98/NT

- System requirements of format software
- SCSI host adapter card (Bus Mastering)
- 150 MB or more free hard disc space
- 3.5" floppy disk drive
- Mouse (Microsoft-compatible)
- 32 MB of RAM or more

Location and Function of Parts and Controls

Front Panel

Headphone Jack   **Headphone Volume Control**   **Busy Indicator**   **Disc Drawer**   **Emergency Eject Hole**   **Eject Button**

Rear Panel

ACTIVE TERM
TEST
ID SELECT

AUDIO OUT
R GND L

0 1 2

INTERFACE CONNECTOR

DC INPUT
5V±5% GND 12V±10%

Jumper block for SCSI bus   **Power-in connector**

Audio output connector   **SCSI bus interface connector**

Precautions

■ **Installation**

- Avoid placing the drive in a location subject to:
  – high humidity
  – high temperature
  – excessive dust
  – mechanical vibration
  – direct sunlight.

Only horizontal drive operation recommended, not vertical or tilted.

■ **Operation**

- Do not move drive during operation, it may cause an error.
- Avoid sudden temperature changes, condensation may form inside the drive. Should ambient temperature suddenly change, wait at least 1 hour before turning off power. Operation immediately after temperature change may cause a malfunction.

■ **Transportation**

- Keep the original packing materials for future transport of the drive.

Hardware Installation

Installing the Drive Unit into the Computer

This example assumes an IBM-PC/AT* compatible computer, a SCSI adapter card and a SCSI interface cable (50 pin flat) are at-hand.
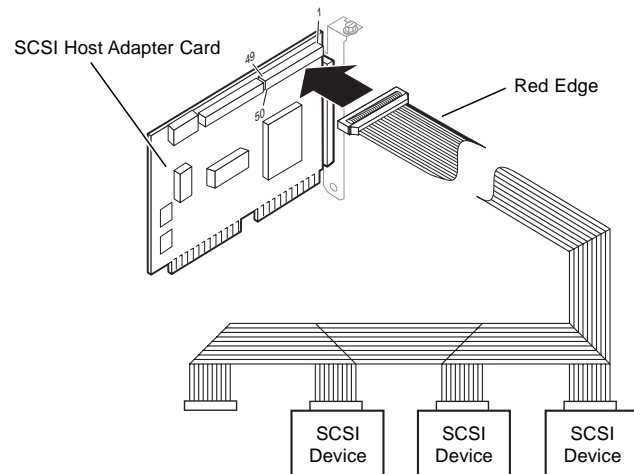
Getting Started

Assure SCSI adapter is operational before installing CD-R/RW drive.
- Prepare the necessary parts and tools not supplied:
  – a screwdriver
  – Two mounting rails if computer has mounting racks.

Step 1: Opening the Computer

First turn off computer and remove / unplug all power cables!
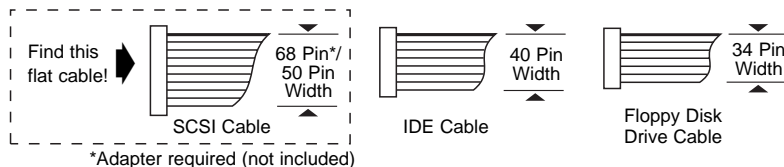Remove computer cover as directed in the User's Manual.

Step 2: SCSI Configuration

Locate the 50 pin SCSI cable in your computer. One end of the cable is
connected to the SCSI host adapter card as shown below.

SCSI Host Adapter Card

Red Edge

SCSI Device   SCSI Device   SCSI Device

Note:
The following types of cables may be installed in your computer:

Find this flat cable!

68 Pin*/ 50 Pin Width

SCSI Cable

*Adapter required (not included)

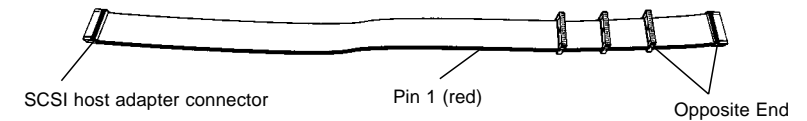40 Pin Width

IDE Cable

34 Pin Width

Floppy Disk Drive Cable

Note:
There may already be internal or external SCSI devices (HDD, Scanner,
CD-ROM) connected to the SCSI cable. If so, determine the SCSI ID# of
each SCSI device. This information is required for Step 5 "Setting the
Jumpers." Refer to SCSI device(s) for ID data. In some cases, a SCSI chip
set may be implemented on the motherboard.

Step 3: Finding the Connector

The SCSI cable should have 1 or more unused connectors on the end
opposite the adapter, as shown, find a connector not in use.
We recommend a connector at the very end of the 50 pin SCSI cable.

SCSI host adapter connector   Pin 1 (red)   Opposite End

Note:
If no free 50 pin SCSI connector exists, see "Troubleshooting", page 18.

Step 4: Choosing the Configuration

■ **SCSI ID selection**

● If no other SCSI devices are in the system, we recommend the default
jumper settings. In this case, go on to Step 6: "Connecting the Drive".

● If one or more SCSI ID's are assigned, you must determine if the
default ID# 6 is free. If SCSI ID# 6 is assigned, you must change the
CD-R drive to a free ID# via jumpers at rear of drive (see Step 5).

■ **Termination**

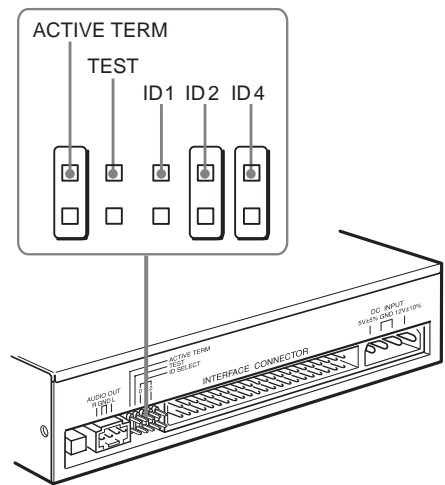● If CD-RW drive is the last physical device on SCSI cable, leave
"Active Term" jumper in place.
Previous last SCSI device may need to be "un-terminated".
● If CD-RW drive is not on end of SCSI cable or last physical device,
remove the "Active Term" jumper and assure the last physical SCSI
device is properly terminated or activated.

Note:
Only the last physical SCSI device needs to be terminated.

Step 5: Setting the Jumpers

Set jumpers on rear of drive unit according to your computer configuration. Jumpers are factory preset as shown below.

The following table shows the function of each jumper.

Jumper	Function
ACTIVE TERM	ON: Enables active termination OFF: Disables active termination
TEST	ON: Enables test mode OFF: Enables normal operation
ID SELECT	Assign the drive unit's ID number by setting these jumpers to ON or OFF. Do not assign the same number as one used for other SCSI device.

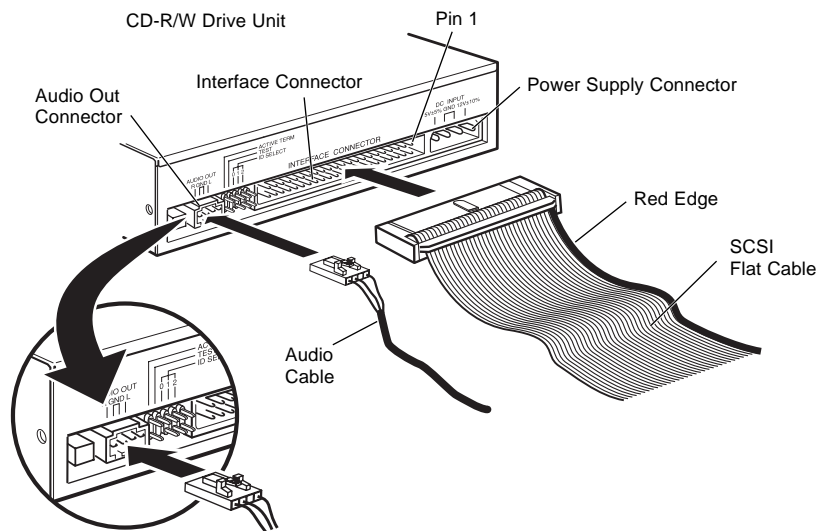| ID number	Jumper settings		
0	OFF	OFF	OFF
1	ON	OFF	OFF
2	OFF	ON	OFF
3	ON	ON	OFF
4	OFF	OFF	ON
5	ON	OFF	ON
6	OFF	ON	ON

▭ Factory settings

Notes:

- The upper row of pins is (without position KEY) is ground.
- Remove jumper to set OFF, install jumper to set ON.
- ID SELECT, ACTIVE TERM, and TEST MODE are recognized when the power supply is turned on or the SCSI bus is reset.
- TEST mode is used exclusively for factory testing.
  Do not set TEST mode to ON. Doing so may cause unexpected (disastrous) results.

Step 6: Connecting the Drive

Attach flat SCSI cable to connector at rear of CD-RW drive.

CD-R/W Drive Unit
Pin 1
Interface Connector
Audio Out Connector
Power Supply Connector
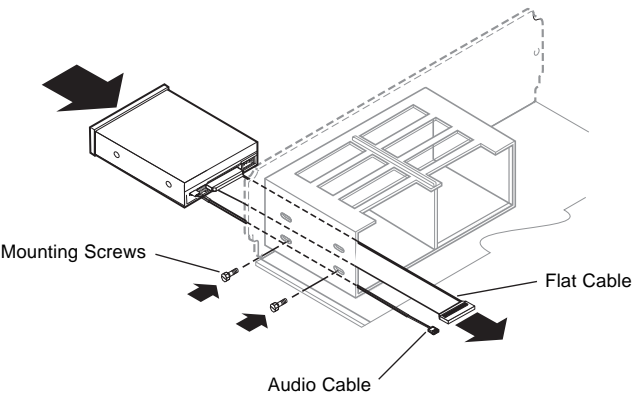Red Edge
SCSI Flat Cable
Audio Cable

Notes:
The 50 pin flat SCSI cable must be firmly attached with its red edge (Pin 1) positioned next to the power supply connector.

If computer has a Sound Card, an Audio Cable may be connected to the rear of the CD-RW drive. Contact a local dealer if cable is required.

Step 7: Mounting the Drive

Insert the CD-RW drive into computer front as shown, routing cables accordingly. Secure drive to frame with appropriate screws.
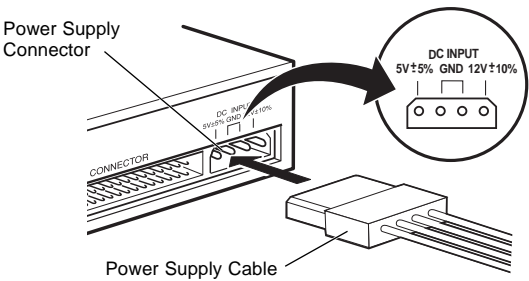
Mounting Screws
Flat Cable
Audio Cable

Note:
Slide rails (not included) may be necessary if you cannot secure CD-RW drive. Refer to your computer's User's Guide for more information.

Step 8: Connecting the Power Cable

Locate an available power supply cable, within computer, and connect it to the rear of CD-RW drive as shown.

Power Supply Connector
DC INPUT
5V±5% GND 12V±10%
CONNECTOR
Power Supply Cable

Note:
The power supply cable connector is designed to fit one way, do not force it upside down, this could damage drive and void the warranty.

Step 9: Installation Review

Now let us review the hardware installation process, assuring that:
- All connectors are properly connected.
- Each SCSI device has its own unique SCSI ID number.
- The last physical SCSI device on the bus is properly terminated.

Red Edge

Notes
- Red edge of 50 pin flat SCSI cable must be on pin 1 of host adapter.
- The following is a sample configuration of CD-RW installation.

CD-R/W Drive
Power Supply Cable
Audio Cable (included)
SCSI Cable (Not included)
Red Edge
Sound Card (Not included)
SCSI Card (Not included)
Speakers (Not included)

Step 10: Closing the Computer

Carefully replace computer cover, per Owner's Manual.
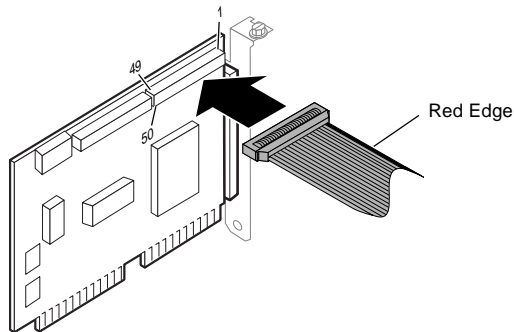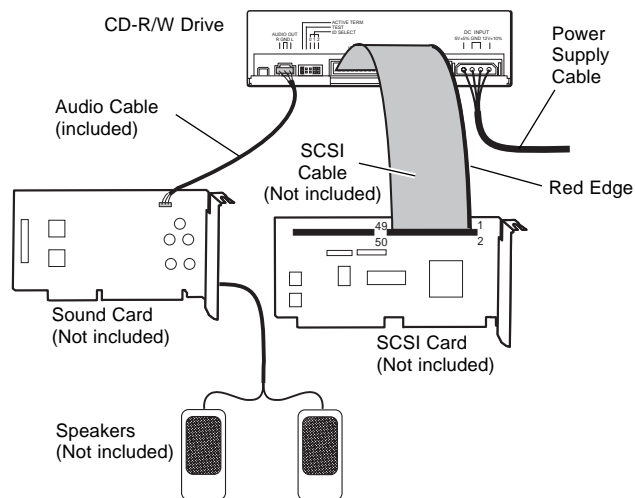Hardware installation is now complete!

Software Installation

Please refer to CD-RW formatting software/CD manual for instruction on software installation. CD-RW formatting software must first be properly installed in order to write CD's with this device.

Using Discs

Storing Discs

- Do not store the disc in a location subject to:
  – high humidity
  – high temperature
  – excessive dust
  – direct sunlight

Care of Discs

- Only hold disc by its edge. Do not touch the record surface.
- Do not wipe CD-R/RW discs before recording data.
  To avoid scratching the recording surface, blow away dust using an air blower.
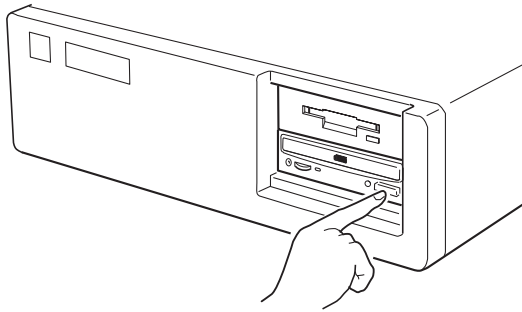
Operating the Drive

Assure application software is installed before using the CD-RW drive.

Starting Up

1 Turn on the computer.

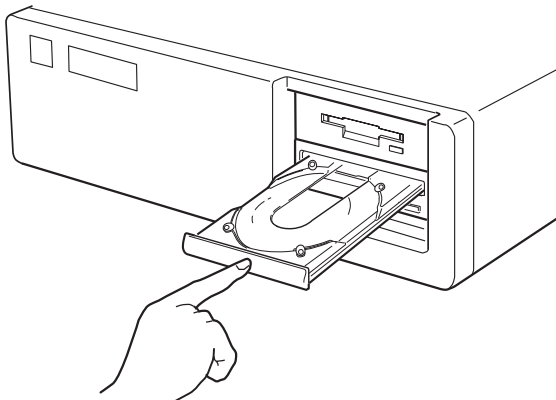**2** Press eject button and the tray extends from drive unit.

Note:
Eject button does not function if software disabled.

Insert disc into drive slot with disc label facing up.
Push gently until auto-load mechanism pulls tray into drive.

Important:
When loading a disc, do not attempt to overpower the auto-load.

As the drive begins reading the Table of Contents (TOC) data, the busy indicator lights and remains illuminated until read is completed.
When the busy indicator switches off, the drive is ready to receive commands, data may be retrieved from the disc. After loading a disc, it takes a moment for the drive to become ready while Program Memory Area is read. From this point, follow instructions provided with the application software.

Note:
Busy indicator on drive continues to light amber if disc is not properly inserted or a malfunction occurs.
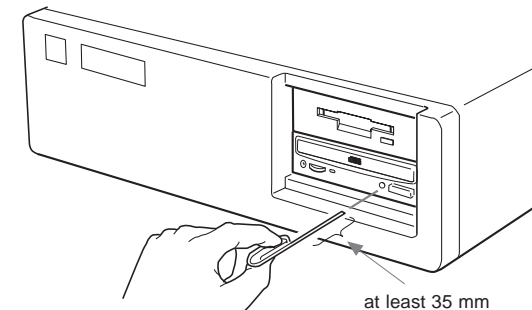In such a case, eject the disc (tray) and reinsert it properly. Should the light remain amber, consult your dealer or qualified service point.
During audio play the busy indicator remains amber, this is normal.

■ Opening the drawer (tray) manually in an emergency

In the event of electrical or mechanical drive failure, a manual emergency eject is provided to allow manual disc removal.

1 Turn off the computer and remove power cable.

2 Insert a pointed object, perhaps a paper clip, into the emergency eject hole and push (typical force required is 46 N [4.7 kg]).

at least 35 mm

After thus removing disc, consult dealer or qualified service point.

Troubleshooting

Should problems occur while installing or operating the drive:

- Please verify the steps of this manual were carefully followed.
- If problem still exists, please confirm the items in "Checklist" below.

Checklist

Please verify the following:

- Power cable properly attached to drive, Step 8 on page 13.
  When properly connected, the LED lights.
- Both ends of SCSI cable are properly attached, check pin 1 position.
- SCSI ID# of CD-RW is unique to SCSI bus. Compare all other SCSI
  devices (internal and external) and see **Step 2 – Step 5**, pages 8-11.
- Check all other jumpers on rear of drive. We recommend factory
  defaults on pages 10 and 11 with a SCSI ID# 6 (if possible).
- Assure SCSI bus is properly terminated or activated at both ends.
  For details, please see **Step 4**, Termination, on page 9.

Should you still have problems operating or installing your CD-RW drive,
please contact our hotline or your local computer dealer.

Additional Installation Cases

■ No free SCSI connector present

If other SCSI devices occupy ever bus connector, either remove a device
before installing CD-RW drive or use a SCSI cable with more connectors.
Please contact a local computer dealer for details.

■ 68 Pin SCSI Cable

If a wide SCSI cable (68 pin) is used, a 50 pin adapter is necessary.

Technical Support

If you require further support or service please contact your local Sony
technical support professionals.

For Europe (German or English) contact the hotline at:

Tel.: +49 (0) 2389 - 951047 or SONY-HOTLINE@SUPLIE.COM
(Monday – Thursday, 8:00 am – 4:30 pm / Friday, 8:30 am – 2:00 pm)

For DK, N, SW & FIN, please call: Tel. +47 (0) 6281 8666
(Monday – Friday, 8:30 am to 4:00 pm Norwegian time)

Within the UK, please call: Tel. 0870 900 8166
(Monday – Friday, 8:45 am to 5:00 pm)

For France, please call: +33 (0) 155 870 866
(Monday – Friday, 9:00 am to 6:00 pm) or E-Mail: sony_hl@nati.fr

All this information and more may be downloaded from the Internet.
Simply access the following address:

http://www.sony-cp.com

Specifications

■ General

    Host interface   SCSI-2, single ended, 50 pin

■ Audio

    Line out: 0.7 V at 47 kΩ
    Headphone: 0.55 V at 32 Ω

■ Environmental conditions

Relative humidity	10% to 90% (no condensation)
Climate gradient	10°C/hour, 10% humidity/hour
Temperatures	
Operating	5°C to 45°C (41°F to 113°F)
Transport	–40°C to 60°C (–40°F to 140°F)
(72 hours max.)	
Storage	–30°C to 50°C (–22°F to 122°F)
(6 month max.)	

Design and specifications subject to change without notice.

Dimension diagram

Important:
The overhang of the screws should not exceed 6.0 mm from the surface of the side panels or the bottom plate.

Schéma des dimensions

Important:
Le dépassement des vis ne doit pas excéder 6,0 mm par rapport à la surface des panneaux latéraux et de la plaque inférieure.

Abmessungen

Wichtig:
Die Schrauben dürfen nicht mehr als 6,0 mm über die Seiten- oder Bodenbleche hinausragen.

Esquema de dimensiones

Importante:
Los tornillos de montaje no deben nunca sobrepasar más de 6 mm. de la superficie de los paneles laterales o del panel inferior de la unidad.

Dimensioni

Importante:
La sporgenza delle viti non può superare il limite di 6 mm dalle superfici dei pannelli.

148 (5⁷/₈)

42.3 (1¹¹/₁₆)

5 (⁷/₃₂)

203 (8)

146 (5³/₄)

0.5 (¹/₃₂)

0.4 (¹/₃₂)

41.4 (1¹¹/₁₆)

21.9 (⁷/₈)

0 (¹³/₃₂)

47.5 (1⁷/₈)

79.25 (3¹/₈)

139.7 (5¹/₂)

8 M3 mounting holes (4 on each side)
8 trous à vis de montage M3 (4 de chaque côté)
8 Schraubbohrungen M3 (4 auf jeder Seite)
8 tornillos tipo M3 (4 a cada lado)
8 viti di fissaggio M3 (4 per ogni lati)

4 M3 mounting holes
4 trous à vis de montage M3
4 Schraubbohrungen M3
4 tornillos tipo M3
4 viti di fissaggio M3

mm (inch)